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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/698,195

10/30/2003

Eric M. Leproust

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EXAMINER

SIMS, JASON M

AGILENT TECHNOLOGIES, INC.

INTELLECTUAL PROPERTY ADMINISTRATION, LEGAL DEPT.

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M/S DL429

LOVELAND, CO 80537-0599

ART UNIT

PAPER NUMBER

1631

DATE MAILED: 05/04/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No.	Applicant(s)	
	10/698,195	LEPROUST ET AL.	
	Examiner	Art Unit	
	Jason M. Sims	1631	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 27 February 2006.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-23 is/are pending in the application.
- 4a) Of the above claim(s) 11, 12, 16-21 and 23 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-10, 13-15 and 22 is/are rejected.
- 7) ☒ Claim(s) 3-9 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                        | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)               | Paper No(s)/Mail Date. _____  |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>10/30/2003</u>  | 6) <input type="checkbox"/> Other: _____                                    |

### **DETAILED ACTION**

Applicant's election with traverse of Group I in the reply filed on 2/27/2006 is acknowledged. The traversal is on the ground(s) that Groups II-VI are directed to articles of use in performing the methods of group I. Applicant's arguments are not found persuasive because the different and related inventions of groups II-VI are distinct and the inventions as claimed do not overlap in scope, i.e., are mutually exclusive; the inventions as claimed are not obvious variants; and the inventions as claimed are either not capable of use together or can have a materially different design, mode of operation, function, or effect.

The requirement is still deemed proper and is therefore made FINAL.

Claims 11-12, 16-21, and 23 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected subject matter of Group I, there being no allowable generic or linking claim. Applicant timely traversed the restriction (election) requirement in the reply filed on 2/26/2006.

### ***Claim Objections***

Claims 3-9 are objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. The specification lays out a clear definition for the phrase "full length synthesis probability measure," with no other alternative meanings, as the likelihood that a given probe sequence will be fully synthesized using the particular probe synthesis protocol. Claim 3 reiterates this

definition for the phrase "full length synthesis probability measure" as being a measure of the probability that said candidate probe sequence will be fully synthesized by an in situ nucleic acid synthesis protocol, which is only a reiteration and fails to further limit the dependent claim.

Claims 4-9 are objected to as being dependent from an objected claim.

***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter, which the applicant regards as his invention.

Claims 4-9 and 22 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 4 uses the term evaluation, which is deemed vague and indefinite as to what steps or what exactly is involved in the evaluation process when looking at the full length synthesis probability measures. Clearer claim wording is required.

Claim 22 cites a method for identifying a sequence of a nucleic acid that is suitable for use as a substrate surface immobilized probe for a target nucleic acid. However, the method steps only cite a method for evaluating a candidate probe for depurination susceptibility. It is unclear as to the metes and bounds of the method for identification of a suitable probe. The method steps result in an evaluation of

depurination susceptibility, but do not show how a value for this parameter is used to identify a suitable probe.

Claims 5-9 are rejected as being dependent from a rejected claim.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-3 and 10 are rejected under 35 U.S.C. 102(b) as being anticipated by Shannon et al. (US P/N 6,251,588).

Claims 1-3 and 10-12 are taught by Shannon et al. in the Abstract and on page 13, col. 6, lines 64-68, page 14, col. 7, lines 1-46, and page 16, col. 11, lines 61-67 and col. 12, lines 1-6. Shannon et al. teaches a method of identifying a sequence for use as a probe based on hybridization and complementarity, as required by the limitation of claim one for determining a full length synthesis probability measure. Shannon et al. also teaches that "a subset of oligonucleotides within the predetermined number of unique oligonucleotides is identified by examination of the stored parameter values under computer control as claim 1 requires employing the measures to select sequences for use. Shannon et al. defines a parameter as "a factor that provides information about the hybridization of an oligonucleotide with a target nucleotide sequence. Generally, the factor is one that is predictive of the ability of an

oligonucleotide to hybridize with a target nucleotide sequence" (p. 16, col. 12, lines 58-64). Therefore, Shannon et al. also teaches only sequences, which meet the parameter threshold value, are selected, as required in Claim 2.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 13-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chee et al. (US PN/5,837,832) in view of Shannon et al. as applied to claim 1-3 and 10 above.

Shannon et al. does teach a method of identifying probes used for target nucleic acids as in Claim 1 and discussed above. Shannon et al. does not teach a method of producing arrays of at least two probes, one of which is produced according to the method of Claim 1, and immobilized on a surface of a solid support.

Chee et al. teaches producing nucleic acid arrays with probes immobilized on a surface of a solid support on p. 45, col. 6, lines 35-50. Additionally, Chee et al. teaches producing these arrays, which contain at least two different probes and are synthesized on said surface as required by Claim 14, on p. 43, col. 2, lines 8-11 and producing these arrays by the probes being deposited onto said surface as required by Claim 15 on p. 43, col. 2, lines 11-25.

It would have been obvious to one of ordinary skill in the art at the time of the instant invention to combine the methods taught by Shannon et al. with the methods taught by Chee et al. because it may enhance detection methods for identifying probe and target sequences.

### **Conclusion**

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jason Sims, whose telephone number is (571)-272-7540.

If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's supervisor, Ardin Marschel can be reached via telephone (571)-272-0718.

Papers related to this application may be submitted to Technical Center 1600 by facsimile transmission. Papers should be faxed to Technical Center 1600 via the Central PTO Fax Center. The faxing of such papers must conform with the notices published in the Official Gazette, 1096 OG 30 (November 15, 1988), 1156 OG 61 (November 16, 1993), and 1157 OG 94 (December 28, 1993) (See 37 CFR § 1.6(d)). The Central PTO Fax Center number is (571)-273-8300.

Any inquire of a general nature or relating to the status of this application should be directed to Legal Instrument Examiner, Tina Plunkett, whose telephone number is (571)-272-0549.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

*Ardin H. Marschel 5/1/06*  
**ARDIN H. MARSCHEL**  
**SUPERVISORY PATENT EXAMINER**